



Energy Technology & Governance Program (ETAG)



Semi-Annual Recap

OVERVIEW

ETAG aims to secure a stable and affordable supply of electricity and natural gas for the Europe and Eurasia region that is enabled by robust and interconnected transmission networks providing the infrastructure for competitive and transparent cross-border energy trade among countries in the region and between the region and the European Union.



USAID/USEA Working Group Study Migrates and Adapts ENTSO-E Methodology to Black Sea Region

Lviv, Ukraine.

The BSTP Working Group commenced the second phase of a study to migrate and adapt the ENTSO-E System Adequacy Methodology to the Black Sea region. The methodology assesses the capacity of national and regional generation fleets and

transmission networks to supply electricity in the context of the special demands renewable energy generation places on the electrical system. The System Adequacy Study is the newest element of the ENTSO-E Ten Year Network Development Planning (TYNDP) process. It complements the ENTSO-E Net Transfer Capacity and Cost Benefit Assessment methodologies (also part of the ENTSO-E TYNDP process) migrated to the BSTP TSOs in earlier workplan studies. Migration of these methodologies is accelerating the prospect for medium-term integration of Black Sea TSOs with the ENTSO-E synchronous zone.

March 2019

Ukraine European Synchronization Model Development Project

Lviv, Ukraine.

Ukrenergo, the national transmission system operator of Ukraine, signed a connection agreement with the European Network of Transmission System Operators of Electricity (ENTSO-E) in 2017. The agreement requires Ukrenergo to meet legal, regulatory, market and technical requirements before it connects to the European synchronous grid.

Among the technical requirements is proof that Ukraine will not export instability to the ENTSO-E network in the event of a disturbance on the Ukrainian grid (generator outage, loss of a transmission substation). Ukrenergo and ENTSO-E will conduct a series of stability studies to make this determination using mathematical network simulation models being developed under the Energy Technology and Governance Program.



Since December, USEA has travelled to seven Ukrainian power generators to collect data needed to assemble the models. We have travelled the breadth of Ukraine to visit Kiev, Kriviy Rog, Zaporzhye, Trypil'ska, Lviv and Kharkiv. The final two plant visits are scheduled to be conducted this month. When complete, the models will be provided to Ukrenergo and ENTSO-E. They will use them to conduct the stability studies and advance Ukraine's connection to the European network.

Southeast Europe DSO Working Group Preparing for Renewable Energy Integration

Zagreb, Croatia.

The DSO Working Group advanced its study on the technical, regulatory and economic impediments to integrating distributed generation on the distribution networks of Southeast Europe. Distribution system operators are being pushed by their national regulatory authorities to accelerate integration of distributed generation to meet EU renewable energy portfolio standards.



The Working Group reviewed a first round data questionnaire that revealed technical impediments, complex internal utility procedures and unresolved regulatory issues, including how to assess connection charges, network fees and allocate the cost of investment to reduce congestion caused by the two-way flow of electricity. The Working Group noted technical impediments can be overcome with network investment that will increase end-user prices.



The study is examining new pipeline, interconnections, LNG terminals, and supply routes needed to diversify the supply of natural gas in Southeast Europe. EE-NGP members toured the Revithoussa LNG Terminal, which expanded its capacity in November by adding a third storage tank and increasing its regasification capacity by 40%.

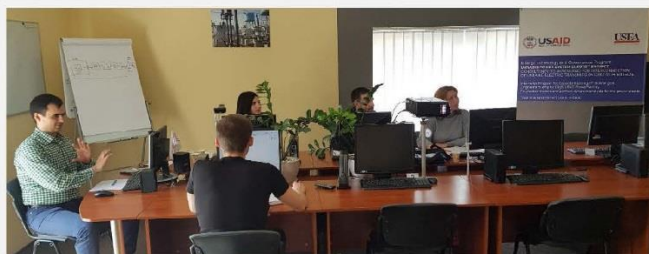
Planning Alternate Natural Gas Supplies for Southeast Europe

Athens, Greece.

The EE-NGP conducted a three day working group meeting hosted by DESFA, the Greek national TSO. The meeting focused on the current network study employing the MAX2040 long term planning model developed by the working group members.

April 2019

USAID & USEA Internship Building Capacity for European Integration



Kiev, Ukraine.

USAID and USEA are training Ukrenergo engineers to develop a dynamic simulation model of the Ukrainian transmission network. Over a nine-week internship organized by USEA contractor, DMCC, four Ukrenergo engineers (two women and two men) are assembling the most accurate dynamic model ever produced in Ukraine.

Populated with data painstakingly collected over eight months of field tests, the model will be used to conduct stability studies of the Ukrainian high voltage network as part of Ukrenergo's overall feasibility study to connect with the European synchronous grid.

USAID Assistant Administrator Brock Bierman Emphasizes Energy Independence as Vital to Securing Democracy at USEA Public Policy Forum

"Energy independence is vital to securing democracy. Nations should be able to choose where their energy comes from and how much they are willing to pay for it."



Washington, D.C.

Brock Bierman, USAID Assistant Administrator for the Bureau of Europe and Eurasia, said USAID and USEA must continue to help the former republics strengthen and grow their energy independence, asserting that, "Energy independence is vital to securing democracy. Nations should be able to choose where their energy comes from and how much they are willing to pay for it." He welcomed the interest, participation, and investment of American companies in this endeavor, stating that, "American businesses offer these countries the chance to take the final steps towards a self-reliant, independent future...For the full story, [click here](#).

May 2019

Securing Networks: Reliable Power for Economic Development

Budapest, Hungary.



This week, the USAID/USEA Energy Technology and Governance Program launched the Balkans Utility Cyber Security Initiative (UCSI) to assist transmission system operators in Southeast Europe detect cyber threats, strengthen their defenses and become more resilient post-attack. Members conducted a Cybersecurity Capability Maturity Model (C2M2) self-assessment, commenced development of a Balkans Cyber Security Risk Assessment Methodology, and discussed with American software vendors, cutting edge cyber security applications.

Brock Bierman Recognizes and Honors Recipients of the 2019 USEA Volunter of the Year Awards



Washington, D.C.

The USAID/USEA Energy Technology and Governance Program (ETAG) transfers American know-how to enhance energy security in our partner countries. Brock Bierman, USAID's Assistant Administrator for the Bureau for Europe and Eurasia recognized three industry volunteers for their contributions at last week's USEA Annual Meeting and Public Policy Forum: Scott Aaronson for EEI's work on cybersecurity through the Utility Cyber Security Initiative; Charles Bayless and Phil Harris for their work on renewable energy integration and wholesale electricity market development under the Electricity Market Initiative.

**SCOTT AARONSON, VICE PRESIDENT SECURITY AND PREPAREDNESS OF
EDISON ELECTRIC INSTITUTE**
**CHARLES BAYLESS, FORMER CHIEF EXECUTIVE OFFICER OF TUSCAN ELECTRIC
AND ILLINOIS POWER**
PHILLIP G. HARRIS, FORMER PRESIDENT AND CEO OF PJM

**USEA ANNUAL MEMBERSHIP MEETING & PUBLIC POLICY FORUM
RONALD REAGAN BUILDING & INTERNATIONAL TRADE CENTER
MAY 23, 2019**

June 2019

USAID/USEA Electricity Market Initiative is Identifying Benefits of Regional Market Integration

Athens, Greece.

At last week's meeting of the USAID/USEA Electricity Market Initiative (EMI) Working Group, Steve Burns, Chief of the USAID Bureau for Europe and Eurasia's Office of Energy and Infrastructure commended its members for their work to integrate national electricity markets.

EMI asks the question, what if there were no barriers to electricity trade (i.e., no congestion, no seams, no borders) for this region, plus Italy? That market would rival the size of some of the world's largest and could produce tens of billions in savings and hundreds of billions in productive investment.



“What if there were no barriers to electricity trade?”

Through its market simulations and regional analyses, the EMI Working Group quantitatively makes a case to policy makers, regulators, TSO executives and investors of the potential benefits of regional integration.

It identifies infrastructure investments and recommends policy changes required to do so. And by providing training to its Working Group members, the EMI is building a sustainable regional planning capacity to sustain market integration over the next decade.

Distributed Generation Improves Regional Energy Security

Ljubljana, Slovenia.

Renewable energy targets, feed-in tariffs, and other incentives are significantly increasing the amount of distributed generation that Southeast European distribution utilities are required to integrate in to their networks. This presents significant technical, regulatory and financial challenges for the electricity distribution utilities.

The USAID/USEA Southeast Europe Distribution System Operator Security of Supply Working Group addressed these issues by presenting the interim results of the “Distributed Generation Integration Study” during its meeting in Ljubljana, Slovenia.



Black Sea Regional System Planning Project (BSTP) Supports Grid Stability in Light of Growing Regional Complexity

Bucharest, Romania.

As transmission system operators in the Black Sea region add larger and larger amounts of renewable energy to the grid, transmission system security becomes a concern. The USAID/USEA Black Sea Regional Transmission System Planning Project (BSTP) is migrating the ENTSO-E System Adequacy Forecast Methodology to the Black Sea region.

The methodology is used to assess whether the generation mix and transmission network is sufficiently robust to accommodate intermittent renewable energy generation. With training on the methodology, the provision of public domain software and consulting support, BSTP is providing Black Sea TSOs with yet another tool to increase national and regional energy security.



Planning on a Regional Basis to Diversify Natural Gas Supply in Southeast Europe

Ljubljana, Slovenia.

New Supplies of natural gas and U.S. liquified natural gas are soon expected to reach Eastern Europe. They hold tremendous potential to increase energy security. The Eastern Europe Natural Gas Partnership (EE-NGP) members reviewed an initial draft of a hydraulic and economic pipeline optimization study on July 18-19 in Ljubljana.

The study highlights ten scenarios based on updated load forecasts and projected supply options. Using the Max 2040 model developed by the Working Group members, it analyzes which of the network development scenarios provides the greatest supply diversification to the region at the lowest cost.

“USAID AND USEA on Front Lines of Energy Diplomacy in Europe” Published in February 2019 Edition of the Public Utilities Fortnightly



USAID and USEA on Front Lines of Energy Diplomacy in Europe

Why Are We There?

BY WILLIAM POLEN, SENIOR DIRECTOR, AND ELLIOT ROSEMAN, PROGRAM DIRECTOR,
UNITED STATES ENERGY ASSOCIATION

Susan Fritz, USAID/Ukraine Mission Director Discusses how USAID/USEA Network Modeling Project Assists Ukraine to Integrate its Electricity Network with the European Grid

Kiev, Ukraine.



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